

## Title of Invention

Gripping bandage

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## BACKGROUND OF THE INVENTION

This is a patent application that improves an approved patent shown in U.S. Pat No. Tseng et al. 6,049,022.

The present invention relates to self-adhering bandages used to improve the grip control for fingers and the protection of sensitive skin on the fingers while using sports equipment or hand tools.

The game of golf has been known as a strenuous exercise which uses only certain portions of the fingers from both hands to control the accuracy of a swing. Improvements for better grip control in the area of either the golf club grip or golf glove have been attempted in the past. They can be found in prior art patent disclosures shown in U.S. Pat. Nos. Minami 5,322,290, Hiraoka 5,482,993, Huang 5,571,051 and Fortis 5,637,043 for golf club grips and in U.S. Pat. Nos. Masstab 3,532,344, Chun 5,423,089, Ville 5,634,214, Storto 5,855,022 and Kobayashi et al. 6,154,885 for golf gloves.

During a golf game, gloves are generally used to protect sensitive skin on the hand while the improved golf club grips made of non-slip materials are intended to provide capabilities to assist golfers to achieve a solid and firm grip of the club. However, even with the gloves on, golfers still have calluses formed on the fingers because the conventional golf glove provides very little cushion for the fingers.

Many amateur golfers, using the improved non-slip golf club grips, still have problems controlling their swings. This problem is further complicated by the moisture from the perspiration of the hands during the play of golf which creates slippage between the hand and the golf club grip.

Most beginner golfers hold the golf club too tight and improperly. Consequently, they tend to lose control of their swing. In addition, calluses or even blisters can occur because the surface of the golf club grips currently available in the market, especially those made of high friction materials, is rough on the fingers. Many golf club houses offer bandages, such as Band-Aid RTM.

from Johnson and Johnson, for those golfers having callus or blister problems. Such bandages typically comprise a thin rectangular adhesive strip, made of synthetic material or cloth, with a small thin gauze pad positioned in and adhered to the center of the adhesive strip. Due to the nature of this type of bandage, the small thin gauze pad provides little cushion for the palm-side skin of the fingers, and the sticky adhesive material causes an unpleasant and uncomfortable feeling during a golf swing. Oftentimes, these bandages become out of shape after a few swings. To worsen the problem, moisture from the perspiration of the hands causes the golf club grip to become slippery. Recently, improvements for the adhesive strip used for Band-Aid RTM have been attempted. These types of medical bandage can be found in prior art patent disclosures shown in U.S. Pat. Nos. Naimar 6,573,419 B2 and Delmore et al. 5,939,339.

These problems as described above are not unique with golfers or golf equipment. They are also common problems encountered while engaging in other sport activities or using hand tools. Therefore, the object of the present invention is not to be limited to the area of golf games or equipment.

#### SUMMARY OF THE INVENTION

It is an object of the present invention to provide a gripping-aid bandage for the finger which is easy to use, comfortable to wear, does not comprise sticky adhesive material that directly contacts to the finger skin, and is reusable.

It is another object of the present invention to provide a gripping-aid bandage for the finger which has an inner flexible self-adhering strip that absorbs moisture caused by hand perspiration, and a flexible, non-slip, non-self-adhering outer strip for better control of sports equipment or hand tools when gripped by the user.

It is an additional object of the present invention to provide a gripping-aid bandage for the finger which functions as a soft cushion between the palm-side skin of the fingers and the grip of sports equipment or hand tools to protect the skin from forming calluses or blisters.

It is a further object of the present invention to provide gripping-aid bandages for the finger which have different degrees of stretchability in the longitudinal direction and in the latitudinal direction.

The bandage of the present invention can be wrapped directly around a finger or indirectly over a sports glove. The bandage comprises multi-layers of different types of strips. These strips are rectangular in shape composed of a single layer or multi-layers of material. In the present invention, the two types of rectangular strips are of a width that approximates the length of a segment of a finger. The strips are, however, different in length, and are firmly bonded together by gluing and/or sewing. The inner strip of the present invention is longer than the outer strip. This is the opposite of a traditional medical bandage. The inner strip is made of thin, lightweight, porous elastic material which absorbs moisture caused by hand perspiration while maintaining its self-adhering property. The outer strip of the bandage of the one embodiment of the present invention is made of a flexible, non-slip, non-self-adhering material which provides better grip control when in contact with sports equipment or a hand tool. Since the outer strips are made of a non-self-adhering material, they do not stick together by contact with aid of pressure. This is the main difference between the current invention and the previously approved patent shown in U.S. Pat No. Tseng et al. 6,049,022. The outer strip is shorter than the inner strip such that the free ends of the inner strip can overlap each other to secure the bandage of the present invention around a finger. The addition of an insert between the inner strip and the outer strip, which can be made of foam or cotton base material, provides extra comfort and protection for fingers.

The game of golf is a strenuous exercise, using only certain portions of the fingers from both hands to control the accuracy of a swing. During a swing, golfers transfer hand grip pressure through certain segments of the fingers for swing control. Unfortunately, most golf club grips currently available in the market are not soft enough to protect the palm-side skin of these finger segments even if a golf glove is worn as a cushion. Calluses or blisters are constantly formed on those sensitive skin areas. The present invention functions as a soft cushion for the protection of fingers. Consequently, callus or blister problems are significantly reduced. The present invention further helps golfers transfer the grip pressure from those finger segments to the inner strip then

through the non-slip outer strip onto the grip of the golf club. As the inner strip will absorb the moisture caused by hand perspiration, the grip of the club should be dry while the possibility of a slip or twist of the club is reduced due to the non-slip feature of the outer strip of the present invention. Therefore, better control of a golf swing can be achieved by using the present invention.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top view of the gripping-aid bandage of the present invention having two different strips overlaying each other; the top rectangular strip is made of non-self-adhering material with non-slip feature in the illustrated embodiment and the bottom rectangular strip 10 is self-adhering, thin, lightweight, porous material which can absorb hand moisture.

FIG. 2 is a cross-sectional elevation view of the bandage of FIG. 1, taken along line 2--2 of FIG. 1, showing a double sided glue tape strip between the inner strip and the outer strip.

FIG. 3 is a top view of an additional embodiment of the present invention, having an insert between the inner strip and the outer strip.

FIG. 4 is a cross-sectional elevational view of bandage of FIG. 3 taken along line 4--4 of FIG. 3, showing an insert and two double sided glue tape strips between the inner strip and the outer strip before they are assembled.

FIG. 5 is a perspective view of the bandages of the present invention applied on a segment of a finger.

FIG. 6 is a cross-sectional view of FIG. 5 taken along line 6--6 of FIG. 5, showing how the inner elastic self-adhering strip overlaps and self-adheres to form a small cylindrical ring around a segment of a finger.

FIG. 7 is a perspective view of the bandages of the present invention applied to protect the sensitive skin areas on right hand fingers that hold a golf club.

FIG. 8 is a perspective view of the bandages of the present invention applied to protect the sensitive skin areas on left hand fingers.

FIG. 9 is a perspective view of the bandages of the present invention applied over a golf glove to provide golf swing control and finger protection.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The first embodiment of the present invention is a gripping-aid bandage 10 without an insert, as shown in FIGS. 1 and 2, comprising two overlying different types of strips 11 and 12 permanently and sealing bonded together. The first strip 11 is made of thin, lightweight, porous elastic material having self-adhering capability to allow bonding to itself and enabling a user to form a protective ring on their finger without having an adhesive material. Examples of this type of material useful in the present invention are Coban RTM., Coach RTM., Self-Grip.RTM. and the like. Coban RTM. is available from 3M Co. located in St. Paul, Minn. Coban RTM. comprises a non-woven polyester fiber base material, elastic threads running through the base material in the longitudinal direction and a layer of latex. While Coach RTM. is available from Johnson and Johnson Co. located in Skillman, NJ. Coach RTM contains natural rubber latex. Self-Grip.RTM. is available from Dome Industries, a division of Dome Publishing Co., Inc. Warwick, R.I. Self-Grip.RTM. is a woven cotton base material containing 2% latex. The elastic material of strip 11 can absorb hand moisture while maintaining its self-adhering property. In other words, the first strip maintains its self-adhering capability when wet.

The second strip 12 is a cushion strip with non-slip surface and is made of flexible, non-self-adhering material and is shorter in the longitudinal direction than strip 11. Examples of this type of material useful in the present invention are fabric, leather (nature or artificial), foam and the like.

In a first embodiment of the construction of the above described gripping-aid bandage 10 illustrated in FIGS. 1 and 2, the thin, lightweight, porous, elastic, self-adhering material, used for the inner strip 11 is cut to form a single or multilayer rectangular strip, for example triple layers of the same material with a size of 4 inch.times.11/16 inch, with good stretchability characteristics in the longitudinal direction shown by arrow 15. The non-self-adhering material, used for the outer

strip 12 of the bandage 10, is cut to provide a single layer or multilayer strip of the same material, for example having a size of 2 inch.times.11/16 inch. The single layer of strip 12 overlays on top of the inner strip 11 at the center and is bonded by a double sided glue tape strip 9. The outer layer strip and inner layer strip may also be bonded by a coat of adhesive material and/or by sewing. The outer multilayer strip may also be bonded by a double sided glue tape strip, a coat of adhesive material and/or by sewing. This embodiment of the present invention provides maximum stretchability in the longitudinal direction shown by arrow 15.

A second construction embodiment of the bandage 10 illustrated in FIGS. 1 and 2 incorporates the same steps as described above for the first construction embodiment, except that the outer strip 12 is cut differently. The outer strip 12 of this embodiment has good stretchability in the latitudinal direction shown by arrow 16 instead of in the longitudinal direction shown by arrow 15 as in the previous construction embodiment. Accordingly, this embodiment of bandage 10 reduces the stretchability in the longitudinal direction shown by arrow 15 at the non-overlapping areas 22 and 23, as shown in FIG. 2.

With respect to each of the above two basic construction forms of the present invention, FIG. 4 illustrates a further embodiment of the invention designated 10 wherein an insert strip 24, where 17, 18, 19, and 20 are four sides of insert strip 24, is added between the triple-layered inner strip 11 and the single-layered outer strip 12, where 13 and 14 are the ends of outer strip 12, as shown in FIG. 3. They are bounded by two double sided glue tape strips 9 and 9' as shown in FIG. 4. By way of example, insert 24 can comprise single or multiple layers of foam or cotton base material and is used to provide extra comfort and protection for the finger during use of the bandage 10' to grip a sports implement or a hand tool.

The present invention can be wrapped directly around a finger or fingers 25 as shown in FIG. 5 to FIG. 8 with outer strip 12 facing away from the finger 25. The self-adhering characteristics of the outer ends of inner strip 11 cause the bandage 10,10' to adhere to itself, which holds the bandage 10,10' firmly in place on the finger 25, as specifically illustrated in FIG. 6.

The bandage 10,10' may also be applied over the finger or fingers of a sport glove 26 as shown



in FIG. 9. The unique combined features of the inner strip 11 and the outer strip 12 of the present invention provide better grip control for the fingers and the protection of sensitive skin on the fingers while using sports equipment or hand tools.

Although, it has been shown and described with details using exemplary embodiments of the present invention, it will be understood that various changes in form, size, the number of layers of material and the pattern used to all sides of the present invention may be made without departing from the spirit and scope of the claimed invention.